IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Olivier Bureller
App. No.	:	10/579,889
Filed	:	May 18, 2006
For	:	METHOD FOR MONITORING THE STATE OF A DEVICE IN A NETWORK AND DEVICE FOR CARRYING OUT SAID MONITORING
Art Unit	:	2463
Examiner	:	Brockman, Angel T.

APPEAL BRIEF

By Notice of Appeal filed February 8, 2010, Applicant appeals from the final Office Action of November 10, 2009 in the above-identified Patent Application and submits this Appeal Brief in support thereof.

Real Party in Interest

The real party in interest is Thomson Licensing of Boulogne-Billancourt, France.

Related Appeals and Interferences

There are no other Appeals or Interferences related to the present Appeal.

Status of Claims

Claims 1-12 are on appeal and have been rejected. A listing of claims showing the current status of all claims of the present application is provided in the Appendix.

Status of Amendments

A first Office Action was issued in the present application on March 4, 2009. An Amendment in response to the first Office Action was filed on August 3, 2009. A final Office Action was issued on November 10, 2009.

A listing of claims set forth in the Appendix reflects the state of the claims incorporating the Amendment of August 3, 2009.

Summary of Claimed Subject Matter

The invention of the present application is directed to a method for monitoring the state of a device connected to a network and to a device for monitoring the state of another device via a network.

More specifically, with reference to the independent claims on appeal, claim 1 is directed to "[a] method for monitoring the state of a first device within a communication network comprising at least two devices, the network comprising isochronous communication channels transmitting data packets synchronized by synchronization signals emitted by the network in regular time intervals," (such as described in the Specification, for example, at page 10, line 24 to page 11, line 5, and FIG. 7.) The method of claim 1 comprises "emission by the first device of data packets on an isochronous channel in response to the synchronization signals emitted by the network" (FIG. 7, step 7.3); "emission by the first device of a monitoring request containing an identifier of the isochronous channel and a task descriptor specifying a task" (FIG. 7, step 7.2); "reception by a second device of the emissions of data packets on the isochronous channel" (FIG. 7, step 7.4); and "triggering by the second device of the execution of the specified task consequent upon the absence of data packets on the isochronous channel between at least two emissions of synchronization signals" (FIG. 7, steps 7.5, 7.6).

Independent claim 7 is directed to "[a] network device charged with monitoring the state of at least one other device of the network," (such as described in the Specification, for example, at page 10, lines 1-23, and FIG. 6.) The device of claim 7 comprises "a means of receiving a monitoring request containing an identifier of an isochronous channel of the network on which the at least one other device whose state is being monitored emits data packets and a task descriptor specifying a task, the means of receiving also receiving synchronization signals allowing the emission of isochronous data packets on the identified isochronous channel of said network" (e.g., hardware interface circuit 6.5, logic interface circuit 6.4, Specification at page 10, lines 1-23 and FIG. 6.); and "a means for triggering the execution of the specified task consequent upon the absence of data packets on the

isochronous channel between at least two emissions of synchronization signals, the absence of packets being indicative of the state of the device being monitored" (e.g., central unit 6.1, ROM memory 6.2, RAM memory 6.3, Specification at page 10, lines 1-23 and FIG. 6).

Grounds of Rejection to be Reviewed on Appeal

A final Office Action was issued in this application on November 10, 2009 in response to which Applicant initiated the present Appeal by submission of a Notice of Appeal on February 8, 2010.

In the final Office Action of November 10, 2009, the Examiner rejected claims 1-5, 7, 8 and 10-12 under 35 USC § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0047862 A1 to Aoki et al. (hereinafter "Aoki"), in view of U.S. Patent No. 6,751,687 B1 to Sato et al. (hereinafter "Sato").

The Examiner rejected claim 6 under 35 USC § 103(a) as being unpatentable over Aoki and Sato in view of U.S. Patent No. 6,310,859 B1 to Morita et al. (hereinafter "Morita").

The Examiner rejected claim 9 under 35 USC § 103(a) as being unpatentable over Aoki and Sato in view of U.S. Patent No. 6,249,322 B1 to Sugihara (hereinafter "Sugihara").

Applicant respectfully requests review of each of the above-recited grounds for rejection.

Argument

Rejection of claims 1-5, 7, 8 and 10-12 under 35 USC § 103(a)

Aoki describes a network error detection and display system wherein when an error is detected in the network, a network error display apparatus displays one of several pre-stored error messages to a user. It is stated that the system can distinguish between an error of the receiving system on the network and an error within a device. (See Aoki, e.g., at Abstract.)

With respect to independent method claim 1, the Examiner contends that:

> Aoki discloses at the level of the device desiring to be monitored: emission by the device being monitored of data packets on a specified isochronous channel in response to the signal emitted regularly by the network (figure 1, ¶[0053], ¶[0178], where the channel number specifies the channel, ¶[0075], where the where the device desiring to be monitored is node A,¶[0178]) and monitoring request containing an identifier of the isochronous channel (¶[0088], wherein the monitoring request is the signal which includes the channel number is included ¶[0065]0¶[0066]); at the level of the second

> device : reception of data packets on a specified isochronous channel (¶[0075], where node B is the second device that receives the packet,¶[0178]); execution of a specified task, consequent upon the absence of packets on the isochronous channel between at least two emissions of synchronization signals (figure 23, where the execution of a specified task is given in the setting of the error display; the error display is empty after emission of the two synchronization signals (fig.21, the at least two emissions are set out in the process of detecting since there are feedback). (Final Office Action, page 3.)

As previously argued by Applicant, Aoki does not teach emission by a device desiring to be monitored of "a monitoring request", let alone a monitoring request "containing an identifier of the isochronous channel (on which the monitored device emits packets) and a task descriptor specifying a task," as recited in claim 1.

The Examiner disagrees and states that:

> applicant argues Aoki does not disclose a monitoring request containing a channel identifier. Examiner respectfully disagrees with the applicant. Aoki does disclose the detection of an error through a monitoring request (signal) that includes a channel number (¶[0065]-¶[0066], ¶[0088]-¶[0089], wherein the header information is being monitored). (Final Office Action, page 9.)

As argued by the Examiner above, "the monitoring request [of Aoki] is the signal which includes the channel number." (Final Office Action, page 3.)

The portions of Aoki on which the Examiner relies indicate that isochronous channels are identified by a 6-bit channel number and that the header information of packets (ostensibly isochronous packets) is monitored for errors. This, however, does not teach the emission of "a monitoring request" by any device. Aoki may describe devices that emit packets containing isochronous channel identifiers, but it lacks any teaching or suggestion that those packets constitute a monitoring request. There is nothing in said packets differentiating them from any other packets so as to inform a second device receiving them that it is to monitor the state of the device from which they were emitted.

Moreover, the emission of monitoring requests as contemplated by the claimed invention, provides the claimed monitoring method with flexibility that is not possible with Aoki's system. As taught by Aoki, a receiving device with monitoring and error handling responsibility (such as shown in Fig. 19) must ostensibly monitor packets from all devices, regardless of whether or not those devices requested monitoring. This could be inefficient

and unnecessarily burden the monitoring device, particularly if the processing power of the monitoring device is limited.

Moreover, the provision of monitoring requests, as contemplated by the claimed invention, provides additional functionality and flexibility not possible with Aoki's system. As recited in claim 1, a monitoring request may contain "a task descriptor specifying a task" whose execution is to be triggered by the second (monitoring) device (upon the absence of packets on the isochronous channel on which the requesting device emits packets). This allows the monitored device to specify the actions to be taken upon an error condition. As such, monitored devices can be changed or reprogrammed and the actions changed accordingly, without changing or reprogramming the monitoring device.

¶[0077] of Aoki describes four kinds of commands: 1) CONTROL, for controlling the function from the outside; 2) STATUS, for inquiring about the state from the outside; 3) GENERAL and SPECIFIC INQUIRY, for inquiring whether support of a control command is present, from the outside; and 4) NOTIFY, for requesting the notice of a state change to the outside.

None of the commands described by Aoki, however, is "a monitoring request", let alone a monitoring request "containing an identifier of the isochronous channel (on which the monitored device emits packets) and a task descriptor specifying a task," as recited in claim 1.

Aoki also describes the possible responses to the aforementioned commands:

> As responses to the CONTROL commands, there are "NOT IMPLEMENTED", "ACCEPTED", "REJECTED" and "INTERIM". As responses to the STATUS commands, there are "NOT IMPLEMENTED", "REJECTED", "IN TRANSITION", and "STABLE". As responses to the "GENERAL INQUIRY" and "SPECIFIC INQUIRY" commands, there are "IMPLEMENTED" and "NOT IMPLEMENTED". As responses to the "NOTIFY" command, there are "NOT IMPLEMENTED", "REJECTED", "INTERIM", and "CHANGED". (Aoki at ¶[0078].)

None of the aforementioned responses, however, includes "triggering [by a monitoring device] of the execution of the specified task consequent upon the absence of data packets on the isochronous channel between at least two emissions of synchronization signals," as recited in claim 1.

While Aoki describes the handling of various errors (see, e.g., FIGs. 20-23), Aoki does not describe the monitoring of an isochronous channel used by a first device to emit data

packets, wherein the monitoring is done by a second device in response to a request from the first device. With respect to errors on an isochronous channel Aoki states:

> [0127] If there is no signal at the step S42, then the processing proceeds to a step S43 and error display information to the effect that there is no signal is set.
> [0128] If there is a signal at step S42, then the processing proceeds to a step S44 and it is determined whether an ISO (isochronous) signal is an empty packet.
> [0129] If the ISO (isochronous) signal is the empty packet at the step S44, then the processing proceeds to a step S45 and error display information to the effect that the packet is empty is set.
> [0130] If the ISO (isochronous) signal is not the empty packet at the step S44, then the processing proceeds to a step S46 and it is determined whether a signal is not PLL (Phase Locked Loop) locked. If the signal is not PLL locked at the step S46, then the processing proceeds to a step S47 and error display information to the effect that the signal is not locked is set.

Thus, while Aoki describes the detection and display of errors related to an ISO signal, it does not teach the emission by a device to be monitored of a monitoring request containing an identifier of the isochronous channel on which the device emits data packets and a task descriptor specifying a task to be carried out (in the event of a problem). Nor does Aoki teach the triggering by a second device of the execution of a task specified in a monitoring request consequent upon the absence of data packets on the isochronous channel between at least two emissions of synchronization signals.

In an attempt to fill in the above-discussed gaps in the teachings of Aoki, the Examiner relies on Sato. According to the Examiner:

> Sato discloses an identifier of the isochronous channel (figure 4, column 12, lines 35-45, wherein the broadcast channels) and a task descriptor specifying the task (figure 19, wherein opcode includes the task descriptor); and triggering by the second device of the specified task (column 24, lines 26-35, wherein the task is the output, column 22, lines 30-35).

As described in Sato, Figure 19 shows a specific example of various commands and responses. The commands and responses described in Sato are the same as those described in Aoki. As discussed above, none of these commands is "a monitoring request" and none of the responses includes "triggering of the execution of the specified task consequent upon the absence of data packets on the isochronous channel between at least two emissions of synchronization signals," as recited in claim 1.

Moreover, there is no teaching in Sato (or Aoki) that the commands are tasks, specified in a monitoring request, to be triggered by a monitoring device in the event of an error condition. Execution of any of the operations specified in the commands is not triggered on the absence of data packets on the isochronous channel, as required in claim 1.

Sato describes the use of status commands to report the status of various A/V signal source equipment in a network. If the source equipment that is indicated to provide a signal is unable to do so, another signal source can be selected in its stead. (Col. 22, lines 30-35, and col. 23, line 46 to col. 24, line 37.) Nonetheless, the source equipment of Sato only reports its status; it does not emit a monitoring request, let alone a monitoring request that specifies a task to be executed upon occurrence of an error condition. Rather, upon receiving the status information of a first device, a second device determines what actions it may take in response thereto. This is in clear contrast to the claimed invention.

For the reasons set forth above, therefore, independent method claim 1 is not rendered obvious by Aoki and Sato. The above discussion also applies to amended independent apparatus claim 7, which recites analogous language with respect to a network device charged with monitoring the state of at least one other device of the network. Pending claims 4-5, 8 and 10-12, which depend therefrom and recite additional limitations, are likewise not rendered obvious by Aoki and Sato, for at least the reasons stated above. The rejection of claims 1-5, 7, 8 and 10-12 under 35 U.S.C. § 103(a) should therefore be reversed.

Rejection of claim 6 under 35 USC § 103(a)

The arguments set forth above regarding the rejection of claims 1-5, 7, 8 and 10-12 under 35 USC § 103(a) are incorporated by reference and repeated in their entirety under this sub-heading.

The Examiner relies on Morita as allegedly disclosing a step of executing actions to resume the emission of data packets, as recited in claim 6.

Nonetheless, even if Morita were to teach what the Examiner purports, and even if it can be properly combined with Aoki and Sato, it does not overcome the deficiencies of Aoki and Sato discussed above with respect to independent claim 1. In other words, like Aoki and Sato, Morita does not teach the emission by a device to be monitored of a monitoring request containing an identifier of the isochronous channel on which the device emits data packets

and a task descriptor specifying a task to be carried out (in the event of a problem). Nor does Morita teach the triggering by a second device of the execution of the specified task consequent upon the absence of data packets on the isochronous channel between at least two emissions of synchronization signals.

As such, for the reasons stated above, independent claim 1 would not be rendered unpatentable by Aoki and Sato in view of Morita. For at least the foregoing reasons, therefore, Applicant respectfully asserts that claim 6, which depends from independent claim 1, is not rendered unpatentable by Aoki and Sato in view of Morita. The rejection of claim 6 under 35 U.S.C. § 103(a) should therefore be reversed.

Rejection of claim 9 under 35 USC § 103(a)

The arguments set forth above regarding the rejection of claims 1-5, 7, 8 and 10-12 under 35 USC § 103(a) are incorporated by reference and repeated in their entirety under this sub-heading.

The Examiner relies on Sugihara as allegedly disclosing a counter of synchronization signals and the detection of a specified number of synchronization signals, and that such disclosure allegedly makes it obvious to use such a counter as contemplated by claim 9.

Even if Sugihara were to teach what the Examiner purports, and even if it can be properly combined with Aoki and Sato, it does not overcome the deficiencies of Aoki and Sato discussed above with respect to independent claim 7. In other words, like Aoki and Sato, Sugihara in no way teaches the emission by a device to be monitored of a monitoring request containing an identifier of the isochronous channel on which the device emits data packets and a task descriptor specifying a task to be carried out (in the event of a problem). Nor does Sugihara teach the triggering by a second device of the execution of the specified task consequent upon the absence of data packets on the isochronous channel between at least two emissions of synchronization signals.

As such, for the reasons stated above, independent claim 7 would not be rendered unpatentable by Aoki and Sato in view of Sugihara. For at least the foregoing reasons, therefore, Applicant respectfully asserts that claim 9, which depends from independent claim 7, is not rendered unpatentable by Aoki and Sato in view of Sugihara. The rejection of claim 9 under 35 U.S.C. § 103(a) should therefore be reversed.

Conclusion

Applicant respectfully submits that all of the pending claims are allowable and that the present Application is in form for allowance. Accordingly, both reconsideration of this Application and its swift passage to issuance are earnestly solicited.

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Respectfully submitted,
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Claims Appendix

1. (Previously Presented) A method for monitoring the state of a first device within a communication network comprising at least two devices, the network comprising isochronous communication channels transmitting data packets synchronized by synchronization signals emitted by the network in regular time intervals, the method comprising:

- emission by the first device of data packets on an isochronous channel in response to the synchronization signals emitted by the network;

- emission by the first device of a monitoring request containing an identifier of the isochronous channel and a task descriptor specifying a task;

- reception by a second device of the emissions of data packets on the isochronous channel; and

- triggering by the second device of the execution of the specified task consequent upon the absence of data packets on the isochronous channel between at least two emissions of synchronization signals.

2. (Previously Presented) The method of claim 1; wherein the second device executes the task thus specified by the first device.

3. (Previously Presented) The method of claim 2; wherein the monitoring request specifies a predetermined number of synchronization signals; the second device executing the specified task when no data packet has been detected on the isochronous channel following the detection of the specified number of synchronization signals.

4. (Previously Presented) The method of claim 2; wherein it comprises a step of emission by the second device of a handling signal following the reception of the monitoring request.

5. (Previously Presented) The method of claim 1; wherein the specified task comprises the display of an alert message comprising an identifier of the first device.

6. (Previously Presented) The method of claim 1; wherein the specified task comprises a step of analysis of the reason for the absence of data packets, and a step of executing actions so as to resume the emission of the data packets.

7. (Previously Presented) A network device charged with monitoring the state of at least one other device of the network, comprising:

a means of receiving a monitoring request containing an identifier of an isochronous channel of the network on which the at least one other device whose state is being monitored emits data packets and a task descriptor specifying a task, the means of receiving also receiving synchronization signals allowing the emission of isochronous data packets on the identified isochronous channel of said network; and

a means for triggering the execution of the specified task consequent upon the absence of data packets on the isochronous channel between at least two emissions of synchronization signals, the absence of packets being indicative of the state of the device being monitored.

8. (Previously Presented) The network device as claimed in claim 7 wherein said network device executes the specified task.

9. (Previously Presented) The network device as claimed in claim 8 wherein the monitoring request received specifies a predetermined number of synchronization signals and in that it comprises a counter of synchronization signals, the specified task being executed when no data packet has been detected on the isochronous channel following the detection of the specified number of synchronization signals.

10. (Previously Presented) The network device as claimed in claim 7 wherein it comprises a means of display of an alert message activated by the absence of data packets on the isochronous channel between at least two emissions of synchronization signals.

11. (Previously Presented) The network device as claimed in claim 8 under the dependence of claim 8 wherein it comprises a means for emitting a handling signal following the reception of a monitoring request.

12. (Previously Presented) The network device as claimed in claim 11 wherein it comprises a means for disabling the handling of a monitoring request, said means for disabling the handling of a monitoring request being activated when the means of receiving senses a signal for handling said request by another device of the network.

Evidence Appendix

[NONE]

Related Proceedings Appendix

[NONE]